

**1.0 TITLE OF EFFORT:** Aerospace and Flight Mechanics Support

**2.0 TASK DESCRIPTION:**

The contractor shall provide project management support of Aerospace and Flight Mechanics Division hardware and software systems to ensure the ISSP technical, cost, and schedule requirements are met.

**2.1 STATEMENT OF WORK REFERENCE:** SOW 3.1.1.1 Engineering and Technical Services; SOW 6.3.2 Probabilistic Risk Assessment (PRA).

**3.0 REQUIREMENTS:**

**3.1 ANTARES Simulation Tool Support**

The contractor shall verify Simulink models and develop a process of incorporating these models into the EG simulation such as ANTARES. The contractor shall provide engineering support for ISS Visiting Vehicles for design reviews and special analyses, such as effects of fuel slosh on the controller. The contractor shall perform peer reviews and independent assessments of ISS GN&C analysis results and development of test cases to validate upgrades to programs such as SOMBAT.

**3.2 Quality and Flight Equipment Support**

The contractor shall aid in the creation of a human reliability/human error database tool through research, data collection and systematic analysis of that data. Specific models and case studies will be developed by data acquired through interactive research of unique crew and ground support activities, processes, and procedures available at NASA Johnson Space Center.